

**DINOSAUR BEHAVIOR AND GROWTH**

**HORNER, John R., Paleontology, Museum of the Rockies, Montana State University, Bozeman, MT 59717 U.S.A.**

Geological and paleontological data derived from the Upper Cretaceous Two Medicine Formation of Montana indicates that at least some dinosaur species exhibited complex social behaviors comparable to many living birds. Two species of duck-billed dinosaurs, a hypsilophodontid and a troodontid, nested in colonies and attended their respective young. Duck-billed dinosaurs had altricial young, whereas the hypsilophodontid and troodontid had precocial young. Morphological evidence indicates that several of the cranial elements of the nestling duck-bills experienced retarded development, and a retention of juvenile features. Following their respective nesting periods duck-billed and horned dinosaurs aggregated into large herds, and apparently migrated seasonally. Cranial ornamentations possessed by duck-billed and horned dinosaurs were most likely used for sexual display and mate recognition.

Osteohistological data indicates that the duck-billed dinosaurs hatched from their eggs at .50 to .75 meters in length, and exited their nests at 1.5 to 2 meters in length, at an age of about one month. These dinosaurs reached 3 to 4 meters in length their first year, and 7 to 8 meters in length after about 5 years. Growth and metabolic rates decreased substantially upon reaching adult size.